



Illinois Audubon

FALL 2021



Wilson's Snipe



- Birdsong, Amboy
- Emiquon, Havana
- Fort Dearborn, Chicago
- Hickory Hills, Hillsboro
- Kane County, St. Charles
- Kaskaskia Valley, New Athens
- Lake-Cook, Highland Park
- Little Wabash, Monee
- McHenry County, Woodstock
- Middlefork, Danville
- Morgan County, Jacksonville
- Ridgway, Olney
- Shawnee, Carbondale
- Springfield, Springfield
- Starved Rock, Ottawa
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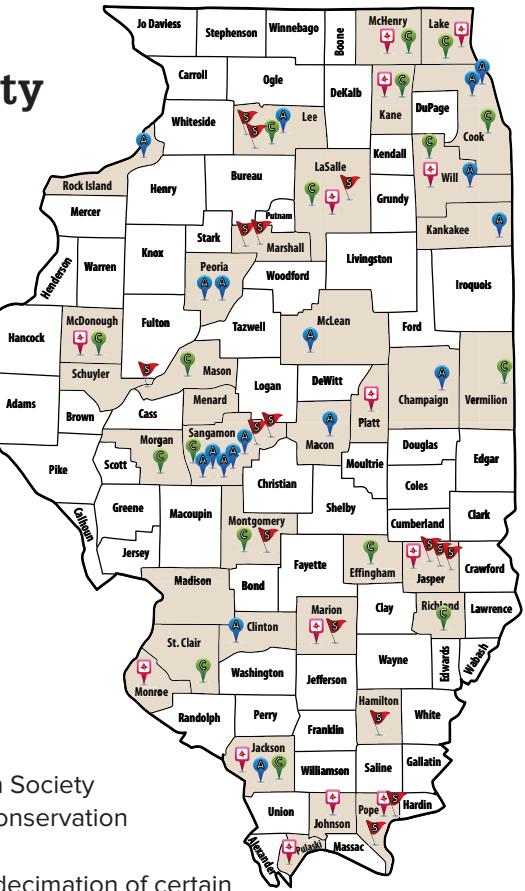


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About Illinois Audubon Society

Our mission is to promote the perpetuation and appreciation of native plants and animals and the habitats that support them.



Established in 1897, the Illinois Audubon Society is Illinois' oldest non-profit, independent conservation organization.

The Society formed in response to the decimation of certain bird species. For well over one hundred years since our first meeting on Chicago's Lake Shore Drive, the Society remains steadfast in its care and protection for native habitat and the wildlife it supports.

Today's Illinois Audubon Society operates as a land trust. We own wildlife sanctuaries throughout Illinois, and we pre-acquire and hold land for state and federal government agencies. Knowing the importance of man's understanding and appreciation of our natural resources, conservation education is an organizational cornerstone.

Illinois Audubon is a membership organization. Our membership roll includes statewide chapters, organizations and many at-large supporters. If you are not a member and care about Illinois' vital landscape, we welcome and encourage you to join the ranks of Illinois' oldest and most respected conservation organization. If you are a member, we thank you for your support.

Members of the Illinois Audubon Society receive quarterly issues of *Illinois Audubon*.

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From the President



THE ILLINOIS AUDUBON SOCIETY has been a bright and shining light for birds and other wildlife for more than 124 years.

As a child, I fondly remember singing “This Little Light of Mine” in Sunday School. The words “I’m going to let it shine, hide it under a bushel, no, no, I’m going to let it shine” apply to our IAS tenets as well.

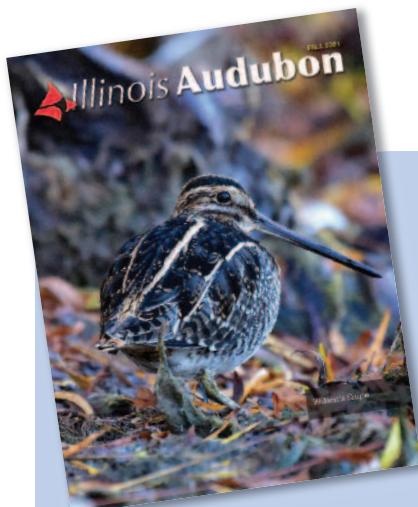
IAS lights are varied. IAS shines in the arena of land acquisition. IAS shines in the realm of volunteer participation. IAS shines in the role of avian research (read all about it in our Annual Report). IAS shines in the enhancement of floral and faunal communities through use of various, innovative methods. And IAS shines in having the very best and most dedicated members, chapters, partners, board directors and staff!

Our responsibility is to be a signal light on the hilltops and to lighten the darkest valley. In these perilous days of climate change and political upheaval and growing world population, it is easy to become discouraged as a caretaker of the environment and its native inhabitants.

But take a look at what IAS has accomplished. Beginning with ceasing the notorious feather trade that decimated wading bird populations, proceeding to educating the public about birds and wildlife habitats and more recently, embracing the acquisition and management of permanent sanctuaries. The list of IAS victories is endless. And, as we open the door to our quasquicentennial year (2022), IAS’ successes in the natural world will increase - because of YOU. Each of you have abilities and life experiences that can enhance our bird and wildlife habitat work.

The shining light of IAS will never be hidden because you are the shining light in your locale. You are the steward, the member, the director, the staff. You are the person that others depend upon to light the way. And you can do it! ▀

Deb Carey
IAS Board President



ON THE COVER ...

Photographer Kevin Wright experienced the Wilson’s snipe as few others have. Here’s how he describes capturing the image featured on the cover of this edition of *Illinois Audubon*.

“Along the shoreline of a local lake, I was lying flat on my belly, trying to get those water-level photographs of waterfowl. That is when I caught a movement and saw it was a Wilson’s snipe. Slowly, I

shifted my position to face, and hopefully not to spook, the snipe and ended up with half my body in shallow water. To my surprise the snipe continued feeding, working closer until it was just 10 feet or so away. I got several close-up shots.”



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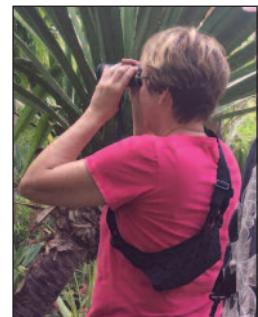
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Note from the Editor ...

AS THE ILLINOIS AUDUBON SOCIETY prepares to celebrate our quasquicentennial (125th) anniversary, I find myself spending more time reflecting on the past. Front and center of the first issue of *Illinois Audubon Bulletin*, published in the spring of 1916, was a statement of the aims and principles of the Illinois Audubon Society. First among the four statements was "To encourage the study of birds, particularly in the schools, and to disseminate literature relating to them." In the same issue, Bertha (Mrs. Frederic) Traer Pattee, Secretary, noted in her column that "While the Society desires to be in touch with everyone who is interested in birds and their conservation, it wishes especially to reach the teachers, since it is largely through their influence that the ideas and ideals of the rising generation will be formed."



In reaffirming our core values, Illinois Audubon Society recognizes the critical role youth have in the future of conservation. Based on the reactions we received to the summer 2021 youth-generated magazine, you agree.

Wow—what a beautiful publication and such great articles and artwork! I feel honored to be part of this project! Jen Lauermann, 5th grade science teacher, Pleasantdale Middle School

I don't say often enough how much I enjoy Illinois Audubon. The recent issue, which is really special, is just one in a long line of great issues. Thanks so much for the amazing quality of the magazine. Marty Kemper, IAS and Kaskaskia Chapter member

IAS Publication #355, Summer 2021—Best IAS publication I've ever seen, and I've seen 32 years' worth. Great job! Don Goerne, IAS and Starved Rock Chapter member

I was mind blown when I held the magazine in my hands and saw the variety of content prepared by youth. I did not think it was possible for someone my age to be a part of such a magazine. Amelia Logan, one of the published authors from Pontiac Township High School; now a first-year student Heartland College studying to be an elementary school teacher with a focus on science.

We can't sit back and let the inspirational messages prepared by Illinois youth fade away. To motivate other educators and youth, we've made the summer 2021 magazine freely available to everyone. Please check it out at illinoisaudubon.org/media/magazine and share the link with educators, youth group leaders and the youth of your community. To further the awareness of our organization and youth initiative, we also sent a copy of the magazine to all Illinois legislators.

Looking to the future and continuing to follow the direction our forbearers established 125 years ago, the wheels are in motion for development of another youth-generated *Illinois Audubon* magazine next year. Do you know of teachers and youth in your community hard at work on natural resource issues? Please ask them to drop an email to editor@illinoisaudubon.org to explore taking part in our next youth-generated magazine. ■



editor@illinoisaudubon.org

Follow us!  



Black-necked Stilt adult at
Emiquon by Don Blecha

An Illinois Shorebird Primer Part 3

Nesters and Rarities

By Sheryl DeVore
and Steven D. Bailey

PART 1 (Winter 2020 *Illinois Audubon*) and Part 2 (Spring 2021 *Illinois Audubon*) of “Shorebirds of Illinois” featured birds that migrate through Illinois, where to find them and their various plumages in different seasons. In this final part we focus on shorebirds that nest in Illinois, the habitats they choose and their breeding activities. We also mention some of the rarest shorebirds seen in Illinois.



Killdeer nest with eggs

Killdeer (*Charadrius vociferus*)
Body Length: 9-11 inches | Wingspread: 24 inches

The killdeer says its name on the wing and from wet patches in fields and at golf courses. This abundant migrant and breeder can be found from late February through early December in the state, with a few lingering throughout winter.

The killdeer is known for its broken wing display. In an attempt to lead predators away from its nest or young, a killdeer will scream, flash its rufous rump and pretend to be injured.

A member of the plover family, the killdeer has a characteristic short bill and comparatively robust body. The killdeer has two large black breast bands and a black band on its forehead. A similar plover, the semi-palmated, has only one breast band.

Breeding killdeer lay their eggs in a simple depression or scrape in a gravel-covered area in open ground, even next to a parking lot or road. The male and female take turns incubating three or four, pointed, buff-colored eggs that are heavily marked with brown and black. Hatching after a 24- to 28-day incubation period, the young soon engage in a run-stop-run-stop feeding pattern along with their parents.



Photos by Steven D. Bailey

American Woodcock (*Scolopax minor*)

Body length: 11 inches | Wingspread: 18 inches

Few birders miss the opportunity from late February through May to observe courting timberdoodles in open fields near young, brushy woodlands. It's an annual ritual, waiting in the chilly air as dark descends, listening for the unmistakable nasal "peent" call of a male woodcock. After several "peents," he takes to the air, producing a twittering noise with his wings. The outer three wing feathers are extremely narrow, specialized feathers which produce the sound. After an elaborate, circuitous set of spirals, he flies higher and higher (up to 300 feet) until out of sight and flies a couple of rings around the female below. The courtship ritual ends with a herky, jerky descent while he sings a "chirpy" call and lands almost exactly where he started.

The woodcock is a common migrant and breeder statewide, and small numbers of woodcock may be found year-round in southern Illinois.

The American woodcock has large, dark eyes that seem too big for its head. It has a large head attached to a plump body, seemingly lacking a neck. Its breast is gray and its belly a rich, orange-buff. A woodcock eats worms, snails and insect larvae, slurping them up from wet soil. It will stamp their feet on the soil hoping to bring worms closer to the surface.

The female lays four buffy-pink eggs blotched with tan and gray. Nests are shallow depressions in the field or woods that are lined with dead leaves or other vegetation. The female's mottled brown



American Woodcock on nest
by Bob Schifo



American Woodcock chick by
Don Blecha

back camouflages her on the nest. Eggs hatch in 20 to 22 days, with the female alone caring for the young. One of the authors, Steve Bailey, has had the pleasure of watching young woodcock running around like spinning tops, exhibiting a tactic to deter predators.

Spotted Sandpiper (*Actitis macularius*)

Body Length: 7-8 inches | Wingspread: 15 inches

"Spotties," as birders often call spotted sandpipers, can be identified from a distance by their quivering, shallow wingbeats interspersed by a glide. When feeding along shorelines the spotties bob their tails up and down like a teeter-totter. Listen for their single or double high-pitched "weet" calls, and in summer, for the continuous "weet, weet, weet" songs.

The breeding plumaged birds indeed have black spots on their breasts, along with orange bills that taper to black at the end. Spotted sandpipers also sport white eyebrows, incomplete white eye rings and bright, yellow-orange legs.

A female spotted sandpiper mates with several males. She lays four blotched, cream-colored eggs in a shallow depression and then almost always leaves. Typically, the male remains, incubating the eggs for 19 to 22 days and watching over the young. After hatching, the young immediately start running and feeding on their own. It can be comical to see the young scurrying about, raising and lowering their rear ends before all the tail feathers form.

Spotted sandpipers are seen in Illinois from early April through mid-October and even a few into November. The best place to find a spotted sandpiper during migration and breeding season is along shorelines of ponds, lakes and rivers. This species breeds throughout most of the central part of the U.S. and throughout Canada and Alaska and winters in the Gulf Coast and border states south throughout Mexico, Central America and much of South America.



Spotted Sandpiper by Don Blecha

Wilson's Snipe (*Gallinago delicata*)

Body Length: 9.5-11.5 inches | Wingspread: 18 inches



Wilson's Snipe by
Don Blecha

Lucky birders, especially those visiting a northern Illinois marsh at dawn or dusk, may hear the unmistakable winnowing sound, emanating from the vibrating outer tail feathers on the Wilson's snipe. This snipe is often difficult to see when it is hiding in marshes, meadows and wet fields. When it darts from its hiding place, you'll hear a screechy call and see it flying in a zigzag fashion before it quickly drops into another secret spot.

Wilson's snipe are fairly easy to find during migration (in Illinois as early as the beginning of March through early May

and then again from late June to early December), with scattered flocks of 30 or more possible. A few winter in southern Illinois. This species does not mix in with flocks of other shorebird species. Snipes nest across northern North America and winter as far south as northern South America.

A stocky shorebird with a long, bicolored bill and a dark striped head, it has an orange tail, boldly whitish-striped back and bold, dark barring underneath. Like woodcocks, snipe have eyes set far back on their heads, a feature that enables them to see predators before they pounce. Another feature it shares with the woodcock is a flexible bill tip which allows them to snatch insect larvae, worms, snails and other invertebrates without opening their entire bill. They busily munch on prey while their bill remains in the mud. Snipe sometimes eat lizards, frogs and even salamanders.

Each year, a few pairs of snipe court and breed in places such as Goose Lake Prairie State Natural Area (Grundy County) and Illinois Beach State Park (Lake County). Even in places where the snipe doesn't breed, you may be lucky to observe its courtship behavior in early spring.

Wilson's snipe build nests of moss, leaves and grass in dryer areas near or within wetlands. For 18 to 20 days the female will incubate four buffy-brown, darkly marked eggs. Young leave the nest within a day.

Wilson's Phalarope (*Phalaropus tricolor*)

Body Length: 9-9.5 inches | Wingspread: 17 inches

Phalaropes exhibit reverse sexual dimorphism, meaning the females are larger and more brightly colored in their breeding plumage than the males. Of the three phalarope species seen in Illinois (red-necked and red are the other two species), the Wilson's is the only one that breeds here. It's a rare to uncommon migrant from early April to early June and again from early July to mid-October. Endangered as a breeder in the state, the Wilson's phalarope is a rare nester in northern Illinois and sometimes central Illinois.

Like other phalaropes, Wilson's engage in a mating style called polyandry. The female mates with several males and then lays a clutch of four buffy, brown blotched eggs in a depression on the ground. She then leaves the male, who incubates the eggs for 18 to 27 days. He also will tend to the young.

Wilson's phalaropes have slender bills and bodies. Breeding plumage females have a black band extending from the eye down the back of the neck, meeting a chestnut-colored patch that extends onto the back and sides. Males lack the black band and have little chestnut coloring.



Wilson's Phalarope
by Greg Lambeth

The peculiar feeding style of phalaropes includes spinning around in a tight circle in water to bring prey of insects, worms and crustaceans to the surface.



Black-necked Stilt pair with four young by Ron Bradley



Black-necked Stilt adult at Emiquon by Don Blecha



Black-necked Stilt nest and four eggs by Steven D. Bailey

Black-necked Stilt (*Himantopus mexicanus*)
Body Length: 14-15 inches | Wingspread: 29 inches

Few records of black-necked stilt existed in Illinois before 1990, and those were migrants. Today, however, this handsome bird with white belly, black head, neck and back and long bubblegum pink legs regularly breeds in a few places in Illinois each year. Some of the first nests were discovered after 1993 along the flooded backwaters of the Mississippi River in far southern Illinois. Extensive flooding in their normal range, south along the Mississippi River and Gulf Coast, likely pushed the stilts to breed farther north that year.

The first confirmed stilt nest in Illinois was in Jackson County in 1994. Since then, the bird has expanded as a breeder into central Illinois, with a few pairs in northern Illinois. Birders documented 158 stilts and 38 nests at Emiquon Preserve (Fulton County) in July 2016. Farther north, a pair was found at Foley Sand Prairie in Lee County in 2009. A family of two adults and two young were seen in Kane County in July 2016. A few to many pairs of stilts continue to nest at Emiquon each year.

Stilts nest in flooded agricultural fields, marshy wetland borders and weedy mudflats. The nest is lined with pebbles and vegetation. The pair incubates four blotched, buffy eggs for about 25 days. Upon hatching, the young are out of the nest, running around hunting and begging for food from both parents. Birders can observe the antics of the noisy young and their parents calling sharp yip-yip notes.

Black-necked stilts winter in wetlands and at shorelines in the southern U.S. southward and well into South America.

Piping Plover (*Charadrius melodus*)
Body Length: 9 inches | Wingspread: 19 inches

In recent years, a pair of piping plovers that humans named Monty and Rose have become super stars for successfully nesting on Montrose Beach in Chicago. Volunteers and wildlife agencies have erected signs, kept guard near the nest site and worked to educate others about this globally imperiled species.

Both federally and state-endangered, the piping plover arrives in Illinois about mid-April and begins departing by mid-July. Some piping plovers pass through until mid-September, rarely into November. Strictly a species of the shoreline, it's found along Lake Michigan in northern Illinois at places such as Illinois Beach State Park (Lake County), Waukegan Beach (Lake County) and Montrose Harbor (Cook County). Piping plover males arrive first. Arriving females observe the males digging scrapes in the sand, often near pebbles. If she likes what she sees, she will join the male on the nest depression, court and mate. The female lays four eggs that hatch in about 4 weeks. The young start feeding almost as soon as they hatch, with both parents protecting them. Piping plovers winter along the Gulf and south Atlantic coasts.



Piping Plover is banded in Lake County by Brad Semel

Adults have sandy-colored backs and white breasts with a single black band. The plumage of the young is mostly smatterings of brown.

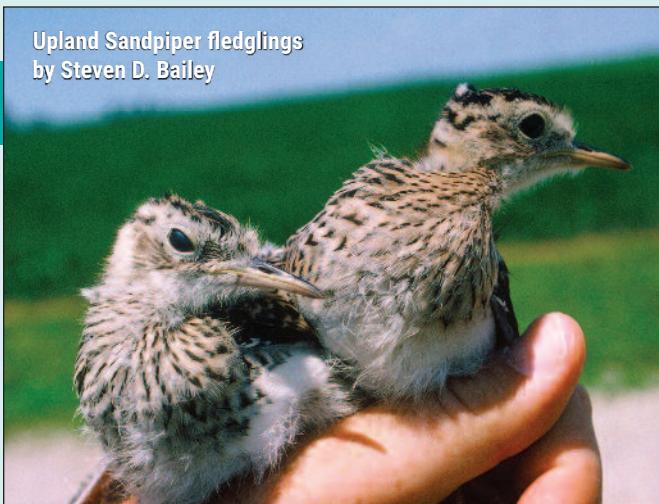
In 1867, the piping plover was considered a common summer resident on the pebbly beaches along Lake Michigan in Illinois. Thirty pair were said to be nesting near Waukegan. The species dramatically declined throughout its range and by 1980 none were breeding in the state, and only about 20 pairs were left in the Great Lakes population. A recovery program began in 1986 after the species was declared federally endangered.

In 2009, and again in 2015, a pair of plovers attempted to breed in Lake County. In 2019, piping plovers became famous amid a controversy of protecting their Lake Michigan shoreline nesting area or allowing a rock concert to be held nearby. The concert was cancelled, and the plovers successfully raised young. The plovers successfully nested in 2020, perhaps because they had the beach to themselves during the COVID-19 pandemic. Monty and Rose returned to Montrose in 2021. The first batch of chicks were predated, but Rose laid another clutch. At press time at least two chicks from the second nest have survived.

There's hope that each year a pair or two will be found nesting in Illinois, but a lot more work needs to be done to protect this species' habitat, both on nesting and wintering grounds.



Upland Sandpiper fledglings
by Steven D. Bailey



Upland Sandpiper (*Bartramia longicauda*)
Body Length: 11-12.5 inches | Wingspread: 26 inches

Hearing the rising and falling sorrowful wolf-whistle during the courtship of the upland sandpiper has become all-too-rare in Illinois. An Illinois-endangered species, few pairs of this sandpiper are discovered breeding each year in the northern two-thirds of the state. Habitat loss is the leading reason for their decline.

Upland sandpipers migrate through Illinois, typically from early April to late May and from mid-July to mid-September. In fall, a few are often found on sod farms.

The upland sandpiper sports a long, thin neck, a lightly streaked breast, white belly and mottled brown back. One noticeable attribute is that its eye appears large compared with the size of its head.

Upland sandpipers nest in natural grasslands as well as vegetated fields near airports and agricultural areas. The female lays four pale, spotted eggs. Both adults incubate the eggs and tend to the young.

Upland sandpipers once nested at Nachusa Grasslands (Ogle and Lee counties), Midewin National Tallgrass Prairie (Will County) and Lost Mound National Wildlife Refuge (Jo Daviess and Carroll counties) but have not been found to nest there in recent years. Today, the best place to find nesting upland sandpipers in Illinois is at widely scattered locations in the agricultural areas of central and northern Illinois.

Upland Sandpiper adult
by Don Blecha



Rare Shorebirds

At one time, the eskimo curlew or "dough bird" was one of the most numerous shorebirds in the Canadian tundra. Market hunting in the late 19th century led to its demise. It was considered "rather common" in Illinois by ornithologist Robert Ridgway as late as the late 1800s. Today the species is likely extinct throughout its previous range.

Here's a list of accidental or casual shorebirds seen more recently in Illinois.

Accidental: species that have been recorded three or fewer times in the past 10 years

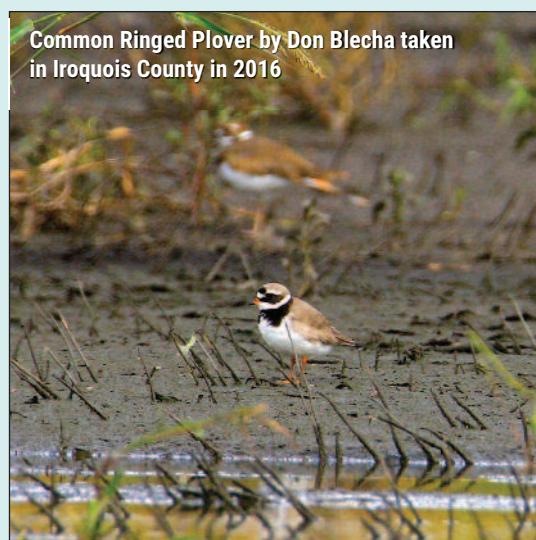
- **Wilson's Plover** (*Charadrius wilsonia*): One record.
- **Mountain Plover** (*Charadrius montanus*): Two records.
- **Common Ringed Plover** (*Charadrius hiaticula*): One record.
- **Sharp-tailed Sandpiper** (*Calidris acuminata*): Fewer than 10 records.
- **Curlew Sandpiper** (*Calidris ferruginea*): Fewer than 15 records, all since 1976.
- **Long-billed Curlew** (*Numenius americanus*): Two records since 1963.
- **Little Stint** (*Calidris minuta*): One record.
- **Wandering Tattler** (*Tringa incana*): One record.

Casual: species that have been recorded more than three times, but 30 or fewer times in the past 10 years.

- **Snowy Plover** (*Charadrius nivosus*)



Wilson's Plover by Carolyn Fields taken in Chicago in 2007



Common Ringed Plover by Don Blecha taken in Iroquois County in 2016



Sharp-tailed Sandpiper photo by Travis Mahan taken in Kane County in 2003



Curlew Sandpiper by Nolan Lameka



Wandering Tattler by Steve Spitzer taken at Montrose Harbor in 2012



Snowy Plover by Dan Kassebaum taken in Jefferson County in 2007



BIOS

Spouses Sheryl DeVore and Steven D. Bailey are authors of "Birds of Illinois" and numerous other publications. Bailey is a retired ornithologist with the Illinois Natural History Survey. DeVore writes environment and nature pieces for regional and national publications.

Mast – An Important Wildlife Food Source

By Carl and Pen DauBach
Photos by Patty Gillespie

WHEN THE COLD of winter begins to grip our state, many natural sources of wildlife foodstuffs become depleted. Our grasses and forbs have died back. Crops, which help feed many of our critters, have been harvested. Woodland mast becomes a crucial food for animals.

Mast is the fruit of trees, shrubs and vines. Hard mast includes acorns, nuts and pinecones. Soft mast includes berries, drupes (berry with a hard-stone center), pomes (such as an apple), pods (red buds, Kentucky coffee bean), and samaras (winged fruits, such as maples, elm, hoptree and ash).

While “hard mast” oak acorns and hickory nuts strew our forest floor, many will begin to decompose in the winter’s duff. Thin-skinned “soft mast” native fruits, such as mulberries, persimmons and blackberries, will have already been consumed by creatures or desiccated by the cold temperatures.

However, in reserve, many of our common native trees, shrubs and vines produce berries which persist throughout winter and will provide a safety net of food sources for wildlife. Wildlife is drawn to berries in winter like a wet dog to a well-dressed visitor.

Our native berries provide an important source of carbohydrates, fats and

sugars for wildlife, particularly in the dead of winter. Berries with low appeal to wildlife when they first mature may soften and sweeten due to alternate cycles of freezing and thawing, making them more palatable to wildlife.

The dark purple fruits of our warty-knobbed hackberry trees are favorites of foxes, squirrels, quail and turkeys. The fruits support 24 species of birds and are adored by flickers, sapsuckers, mockingbirds and cardinals. Hackberry berries are also a favorite food of our reclusive and elusive nocturnal flying squirrels.

Eastern red cedar trees, which go trooping along fencerows and invading old fields and skulking deep in the woods, provide both food and valuable nesting and roosting habitat for birds. Their berries, dark blue with a whitish blush overall, are borne only on the female trees and are favored by bobwhite quail, turkeys, rabbits, foxes, skunks, opossums, fox squirrels (but not gray squirrels) and coyotes. In addition, they attract 54 species of birds, especially over-wintering cedar waxwings, mockingbirds and thrashers.

As the name indicates, possum haw produces fruits loved by opossums. Our native holly produces bright red fruits, which remain on the tree during the winter so long as birds and mammals let



Hickory Nuts



Wild Blackberries

them stay. Although the secondary name, swamp holly, suggests that this small deciduous tree only grows in moist soils, it does grow far from bottomland woods and does well in a variety of habitats, including drier upland woods.

The red berries of flowering dogwoods, the white berries of rough-leaved dogwoods, and the blue berries of alternate-leaved dogwoods are all high in calcium and fat content (24 percent by weight). These berries help sustain about 60 species of animals, especially rodent mammals, and more than 40 species of birds in Illinois, including turkeys and quail. Woodpeckers, cardinals and bluebirds especially adore dogwood berries.

Some of our native berry-producing trees, such as dogwoods, demonstrate



Cedar Berries

an important evolutionary reproductive strategy called foliar fruit flagging. The berries' bright colors combined with brilliant fall foliage readily attract wildlife, which consume the berries and then drop seeds, often miles from the tree, ensuring greater reproductive success for the tree.

Of the numerous shrubs producing wintertime berry food for wildlife, spicebush offers glossy red berries, favorites of rodents and squirrels and sustenance to 20 species of bird life.

Smooth sumac's clustered red berries attract small rodents and 31 species of birds, especially bluebirds. White-tailed deer also like the berries. The sumac's best friend is a cottontail rabbit. Studies have shown that sumac

seeds in rabbit pellets germinate at a much higher rate than any other eaten or uneaten sumac seed.

Our native viburnums, black haw, nannyberry and rusty nannyberry, produce blue-black berries eaten by game birds, robins, bluebirds, thrashers, eastern chipmunks and squirrels. Viburnum berries, however, often rot on the twig, and their low-fat content dampens their appeal for most wildlife.

Whether growing as a shrub or in vine form, the small white berries of poison ivy are an important food source. More than 60 species of birds relish the fruit. Many birds are attracted by poison ivy's brilliant red foliar flagging, including winter residents (bobwhites, yellow-rumped warblers and flickers) and many



Wild Black Cherry Berries



Dogwood Berries

fall migrants. Animals seem to have no difficulty with this plant, which causes an itchy, weepy dermatitis on contact for most people.

Hanging like ropes from the forest's canopy, wild grape vines provide oodles of soft mast to stock the wildlife larder. The grapes of seven species native to Illinois, are eaten in winter by bobwhite quail, turkeys, pileated and red-bellied woodpeckers, thrushes, waxwings, cardinals and deer. Raccoons, opossums, skunks and squirrels also eat wild grapes.

The berries of our native American bittersweet feed 15 species of birds and small mammals.

Our common Virginia creeper of the grape family, which sports beautifully brilliant fall foliage and luscious and nutritious blue berries, supports 35 species, including skunks, foxes, deer, flickers, woodpeckers, bluebirds, thrashers, robins and fox sparrows. Fermented Virginia creeper berries on the vine will occasionally mildly intoxicate wildlife. It is best to proceed with caution when spotting tipsy thrashers or stumbling skunks.

If one is so inclined to conserve and support our myriad of wildlife, he or she should take care of the mast-producing native trees and shrubs in our woodlots and lawns. Planting more of them will benefit our wildlife. ■



Sumac Berries

TYPE MAST**FOOD FOR****REMARKS**

Red Oak Group Acorns	Squirrels, mice, voles, rabbits, raccoons, opossums, foxes, wild turkey, bobwhite quail, deer, wood ducks, mallards, woodpeckers, crows and jays.	Twelve species within the red oak family in Illinois. High lipid (energy) levels. Must overwinter to germinate. Most animals cache or store acorns.
White Oak Group Acorns	Same as above.	Eight species within the white oak family in Illinois. Lower lipid levels. Germinates immediately. Most animals eat acorns immediately.
Hickory Nuts	Squirrels, wild turkey, deer, ducks and raccoons.	Eleven species of hickories in Illinois.
Black Walnuts	Squirrels.	In every county. Shells too hard for most animals.
Hackberry Berries	Squirrels, foxes, bobwhite quail, wild turkey, cedar waxwings, yellow-bellied sapsuckers, mockingbirds and robins.	In every county. Dark purple berries.
Mulberry Berries	Most birds and small mammals.	Two species throughout Illinois; dark purple or white, blackberry-shaped, berries.
Red Cedar Berries	Bobwhite quail, wild turkey, rabbits, foxes, skunks, opossums, coyotes, and many songbirds, especially cedar waxwings.	Dark blue berries, with a whitish blush, borne only on female trees. Throughout Illinois.
Wild Black Cherry Berries	Deer, wild turkey, squirrels, mice, voles, rabbits, foxes, opossums and 42 species of songbirds	Black drupes. A drupe is a berry with a hard-stone center. Throughout Illinois.
Persimmons	Twenty species of songbirds, bobwhite quail, flying squirrels, foxes, raccoons, skunks, deer, dogs, and above all opossums. Big fish, especially catfish.	Central and southern Illinois only.
Holly Berries	Opossums, many songbirds and small mammals.	Bright red berries. Three species in Illinois: winterberry in north, possum haw in central and south, and evergreen along the Kentucky border.
Dogwood Berries	Deer, rabbits, wild turkey, bobwhite quail and 36 species of songbirds.	Three species in Illinois; blue, red or white berries.
Spicebush Berries	Twenty species of birds, especially wood thrush, rodents and squirrels.	Glossy red drupes. Common in southern half of Illinois; occasional in northeast Illinois.
Sumac Berries	Small mammals and songbirds, especially catbirds, cedar waxwings, mockingbirds, blue jays, orioles and tanagers.	Clustered red berries. Four species throughout Illinois.
Buckeyes	None	Toxic to man and animals. Ohio buckeye common throughout the state, except far northern; red buckeye primarily confined to southern Illinois.
Serviceberries/Shadbush	Small mammals and 35 species of birds.	Two species in Illinois. More widely distributed shadbush has reddish-purple berries; smooth shadbush, largely confined to northern section, has dark purple berries.

TYPE MAST

FOOD FOR

REMARKS

Sassafras Berries	Small mammals and 28 species of birds.	Dark-blue drupes. Central and southern Illinois only.
Viburnum Berries	Songbirds, wild turkey and small mammals.	Three species in state and all produce blue-black berries.
Wild Blackberries	Rabbits, yellow-breasted chats, common yellowthroats, towhees, brown thrashers, indigo buntings, box turtles, deer and wild turkey.	Twenty species throughout Illinois.
Wild Grapes	Bobwhite quail, wild turkey, deer, pileated and red-bellied woodpeckers, thrushes, cedar waxwings, catbirds, cardinals and warblers.	Seven species throughout Illinois.
Pawpaw	Raccoons, foxes, opossums and squirrels.	Central and southern Illinois only.
Bittersweet Berries	Bobwhite quail, wild turkey, rabbits, squirrels and songbirds, especially chickadees, bluebirds and blue jays.	Both American (deep orange berries) and the exotic invasive Oriental bittersweet (reddish-orange berries). Throughout Illinois.
Poison Ivy Berries	Raccoons, deer, muskrat, rabbits, wild turkey, and 60 songbird species, especially crows, bluebirds, pileated woodpeckers, robins, catbirds, chickadees, Carolina wrens, yellow-bellied sapsuckers, purple finches, mockingbirds, juncos, white-throated sparrows and starlings.	Whitish-gray berries. Throughout Illinois.
Elderberry	Small mammals, wild turkey, deer, bluebirds, indigo buntings, house finches, flickers, flycatchers, grosbeaks, jays, kinglets, mockingbirds, nuthatches, orioles, tanagers, sparrows and cedar waxwings.	Blue-black berries. Throughout Illinois.
Virginia Creeper Berries	Thirty-five bird species, especially thrushes, woodpeckers, warblers, vireos and mockingbirds.	Purple-black berries. Toxic to humans. Throughout Illinois.
Samaras	Deer, squirrels and chipmunks.	The "winged" fruit of maples, ash, elm and hornbeam trees.
Catkins	Deer, squirrels, chipmunks and wild turkey.	The slim, cylindrical flower clusters of oaks, willows, hickories and mulberry trees.



BIOS

Carl and Pen DauBach live in the Ozark Natural Division of rural Monroe County. Carl is an Air Force Colonel, retired, and Pen was a college teacher. Pen is an Illinois Nature Preserves Commissioner and Carl is on the Illinois Audubon Society Board of Directors.



Stewardship Corner

Story by Kaleb Baker

Burning Bush (*Euonymus alatus*)

By Kaleb Baker

AS FALL approaches, plants begin to break down their chlorophyll, revealing the colors of the less abundant leaf pigments before breaking those down as well. This process is not only apparent in our native trees such as maples as they change from green to yellow, orange and red, but also in some of our invasive species. *Euonymus alatus* gets one of its common names "burning bush" from its bright red fall leaves. The species is also called "winged euonymus" because its branches have four corky 'wings' or ridges.

Burning bush, originally from northeast Asia, was brought to the U.S. in the 1860s as an ornamental shrub and has since escaped into natural lands. It often invades disturbed areas, including woodland edges, vacant lots, roadsides and fence rows. Burning bush can create dense shade that displaces native flora. Less abundant in Illinois than more eastern states, this invasive shrub tends to be found in natural lands surrounding urban and suburban areas.

Burning bush is still sold in nurseries and garden centers as an ornamental. As with most invasive species, the best way to prevent burning bush from invading our natural areas is to not propagate the plant. Even if surrounded by suburban or urban lands, burning bush poses a risk to natural areas because it spreads not only by root suckers but also by birds and other animals transporting the seeds, potentially across great distances.

To eradicate burning bush, several treatment options are available. Regularly cutting or mowing the plants at ground level is a common method. Pulling is also an option, especially for small plants. However, where infestations are large or resources are limited, localized application of targeted herbicides will eliminate the need to revisit that infestation multiple times in a year.

The best disease treatment is prevention; much the same, the best invasive species treatment is limiting the species' presence in the region and thus preventing it from invading. Replacing burning bush with native shrubs benefits our birds, pollinators and invertebrates more broadly by providing them



Muffet Wikimedia Commons



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with food sources with which they have evolved for thousands of years. Some fantastic native replacements for burning bush that provide a splash of red fall color include fragrant sumac (*Rhus aromatica*), ninebark (*Physocarpus opulifolius*), or one of our chokeberries (*Aronia* sp.). ▀



BIO

Kaleb Baker is the Land Steward for the Illinois Audubon Society. He earned his Bachelor's and Master's of Science degrees in Biological Sciences from Northern Illinois University. For four years Baker worked with The Nature Conservancy's Nachusa Grasslands as a crew member, crew leader and volunteer, and he developed a volunteer stewardship committee with Franklin Creek Conservation Association.

There is a Biodiversity Crisis and Some Species are Loving It

By Jim Herkert



Spix's macaw by Joseph Smit (1836-1929), Dutch artist and ornithologist



po'ouli by Paul E. Baker, USFWS

THERE IS SOLID EVIDENCE

that global biodiversity is declining. Three species of birds have gone globally extinct since 2000 (Spix's macaw, Hawaiian crow, po'ouli), and the number of species threatened with global extinction is growing.¹

The primary threats to biodiversity, and birds, are predominantly human caused and include agricultural expansion, logging, overexploitation, urbanization, pollution, disturbance and the effects of invasive alien species.¹ Such threats are contributing to declining bird populations worldwide.

Yet, despite clear indications that humans are fundamentally altering biodiversity, it has been surprisingly challenging to find corroborative evidence of global-loss trends within local level studies. In the Spring 2021 issue of *Illinois Audubon* I talked about how it appears that the number of bird species seen annually in the state is currently increasing and that the number of bird species seen within Illinois in 2020 may have been an all-time high.² Such observations seem to contradict the global biodiversity decline paradigm.

As it turns out, evidence that appears to contradict this paradigm is fairly common. A recent meta-analysis of >50,000

biodiversity time series from 239 studies of amphibians, benthos, birds, fish, invertebrates, mammals, marine invertebrates and plants in marine, terrestrial and freshwater biomes also failed to find evidence of widespread biodiversity decline (measured as the number of species present in a local area).³ The data set used in this study was the most extensive compiled to date. Each time series represented a record of species composition at a particular site over time. Included sites represented all major ecosystem types and climatic zones. The study found that overall species richness did not change when assessed across

all studies or when assessed within individual biomes. Species richness did increase in some individual studies and declined in others, but overall (across all studies) species richness was found to be globally stable.

The general contradiction of global biodiversity loss coupled with generally stable biodiversity trends at the local level appears to be rooted in the fact that losses of rare species from local communities are offset by corresponding gains in common, generalist species such that the net change in species total is often neutral or even



Wilson's Phalarope by Bob Schifo

positive. Rare species are declining, but they are usually being replaced with more common and widespread species.

This appears to be the case with Illinois birds. Analyses of data from the Breeding Bird Survey (BBS) in Illinois, a long-term standardized roadside survey of breeding birds (comparable to some of those used in the meta-analysis discussed above) reveals that the total number of species observed along BBS routes within Illinois significantly increased between 1967 and 2018. This pattern is consistent with the signal from the trend in the total number of birds observed in the state by birders, which also suggests an overall increase in the number of bird species in the state.² The species that have been lost (not seen since 1987 or earlier) from the BBS in Illinois are generally rare species with restricted ranges, such as greater prairie-chicken, Wilson's phalarope, Forester's tern, short-eared owl, common gallinule, black tern and yellow-headed blackbird. Species that have

been gained on the BBS within Illinois (first recorded in the last 20 years) are species with generally increasing statewide populations, many of which have become relatively common within the state (at least locally). Species gained on the BBS include Eurasian collared dove, bald eagle, sandhill crane, black-necked stilt and mute swan. So, the general pattern observed in the meta-analysis is also present in Illinois bird communities—rare species continue to decline, but those losses are offset by increases in other more common species which are expanding their populations such that overall species richness is not declining.

Just because local studies fail to confirm patterns of global biodiversity decline does not mean that all is well with global biodiversity. Many species are still at risk. These data and analyses do highlight that patterns of species change are complex and that some species are currently thriving while others continue to decline. ■



Eurasian Collared Dove by Bob Schifo



Black-necked Stilt by Bill Ludemann



Short-Eared Owl by Bob Schifo

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BIO

Jim Herkert is the Executive Director of the Illinois Audubon Society. He also is a Fellow in the American Ornithology Society (formerly the AOU).

Igniting Curiosity Through Outdoor Experiences

By Hannah Dains



FOR MANY Chicago students and teachers, “back to school” this fall meant a return to the classroom after more than a year away from traditional schooling. For the 501(c)3 nonprofit organization Gateway to the Great Outdoors, a return to the classroom is a return to the rivers, the lakes, the parks, and maybe even the rock-climbing gym. Founded in 2015 by Chicago native Nadav Sprague, Gateway to the Great Outdoors (GGO) currently operates in St. Louis, Missouri and Chicago, Illinois. GGO’s goals are found in their mission statement: “Gateway to the Great Outdoors empowers low-income students by igniting curiosity through outdoor experiences, building

environmental science literacy, and promoting healthy lifestyles.”

The GGO program combines in-school learning, often conducted outdoors, with monthly field trips and a camping trip each semester. The program is based on, and contributes to, the growing body of scientific research on the health and educational benefits of nature-contact. Research on the effectiveness of GGO programming has been published in the *Journal of Public Health, Sustainability, Health Equity* and the *International Journal of Qualitative Methods*. This research has indicated that the GGO program increases stu-

dents’ educational achievement and improved mental, physical and emotional health outcomes.

GGO focuses on bringing the benefits of nature contact to students in the Chicago Public School District (CPS) who face barriers in accessing the outdoors. Before starting the program, 74 percent of GGO students indicated that they had not been to a park in a year or more. Many students in Chicago had never been to or seen Lake Michigan before participating in GGO, even students from schools that are less than a 30-minute walk from the lake. GGO partners with schools that qualify between 97 and 100



percent for the Federal Free and Reduced Lunch Program. This statistic indicates that at least 97 percent of students' families live at or below 130 percent of the national poverty level.

Financial barriers are not the only ones these students face when trying to access safe outdoor engagement. In a pre-assessment survey GGO's students were asked, "What is an issue that is affecting our natural environment?" One-third of the children responded "guns." An additional 25 percent had answers such as "killing," "mugging" and "drugs." GGO makes the outdoors accessible to these students directly by providing the weekly school visits, monthly field trips, and once-per-semester camping trips, entirely free of cost. Local Chicago university students provide a dedicated volunteer base of peer mentors and field trip leaders who connect with students on an individual level.

"The relationships between students and mentors are the most important part after what the students learn," DeShannon Brooks, an administrator at a GGO partner school, said of the mentorship aspect of the program. "GGO is a unique program. The mentors know every student. They know the different personalities. That is the most amazing thing that any outside organization can do with students: build great relationships."

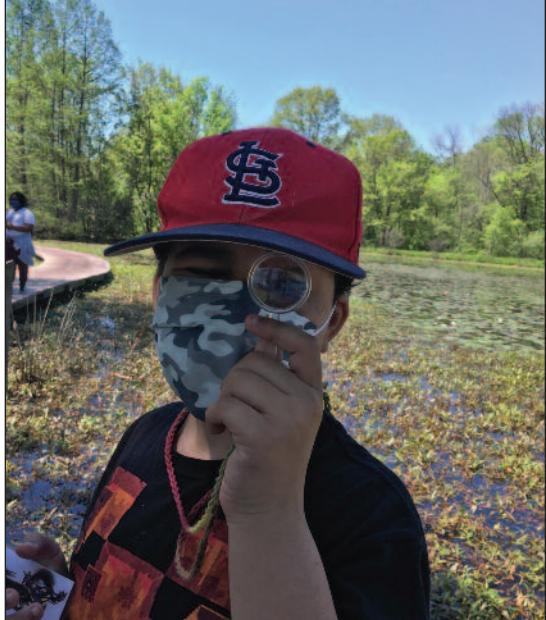
As a classroom teacher in Chicago Public Schools, Sean Murphy, who has previously conducted birding walks and bird identification activities with students, noted that two of his biggest challenges are lack of resources and the student-teacher ratio. "Gateway to the Great Outdoors supports our classroom in both of these areas to improve the experience in the classroom for our students," Murphy explained.

In addition to outdoor enrichment, the GGO program includes an in-school STEAM (science, technology, engineering, arts and math) component that is designed with the needs of each partner school in mind.

Peer mentors conduct lessons that include group activities, journaling exercises, presentations, and science experiments designed to teach students about the environment and how to protect it. In research conducted on GGO programming, students who completed the program increased their STEAM-learning capacity by 25 percent. Surveys from teachers at GGO partner schools found that 95 percent of GGO students in-

creased their STEAM test scores. The GGO program is designed to integrate in-school learning experiences with outdoor engagement, allowing students to see first-hand what they learn about in school. In one lesson in GGO's Healthy Lifestyles unit, students learn about nutrition by planning out which healthy snacks to bring on a hike. In another lesson, students learn the basics of Wilderness First Aid; in another, they put together a miniature wind turbine. One student said, "[Before GGO] we used to do these [lessons] in our workbooks. Just doing work, being bored.... When they [GGO educators] came, we did activities and fun stuff. They made learning fun."



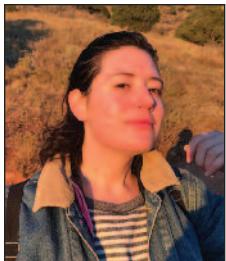


During the past academic year (2020/2021), GGO could not conduct its traditional program in Chicago Public Schools. However, GGO continued to work to provide students with STEAM educational experiences through the Go & Grow with GGO (Go & Grow) program. STEAM learning kits distributed free-of-charge by the Go & Grow program contained all the necessary materials and instructions to complete hands-on science experiments, journaling assignments, and other educational activities. The Go & Grow program provided GGO students with in-person scientific engagement opportunities that could be conducted safely at home. Since pioneering the program in 2020, GGO has distributed more than 5,000 Go & Grow kits, distributed multiple times with new materials and activities each time. Through the Go & Grow program, GGO partnered with four new Chicago Public Schools.

Tifani Allen, a teacher at a GGO partner school, said "GGO gives my students experiences, mentorship, and support that they would otherwise never have had. My students have grown in their outdoor skills significantly—from asking if life jackets are bullet-proof to being able to start a campfire. They have been able to learn about agriculture and healthy eating. Two of my students tried lettuce for the first time because of GGO. I do not even know where to begin on how helpful GGO has been to my students—I could write a book! I am just thankful that an organization like this exists."

Here's to returning to the classroom—wherever that classroom might be. □

Learn more about Gateway to the Great Outdoors at gatewayoutdoors.org.



BIO

Hannah Dains is a Los Angeles native who recently graduated from Washington University in St. Louis with a bachelor's degree double majoring in Sociology and Drama. She has worked as an experimental theater producer, a writer for the ACLU of Missouri, and as a mentor with the Los Angeles literacy nonprofit Get Lit - Words Ignite.

The Kirtland's Warbler, North America's Rarest Wood Warbler

By Tracy Zeman

ON JUNE 7, 2021, I traveled to the town of Mio in the northeastern quadrant of Michigan's lower peninsula to participate in the Kirtland's warbler census. I began birding a dozen years ago but knew little about the Kirtland's warbler until moving to Michigan from Illinois four years ago. After joining Michigan Audubon, the quarterly "Jack Pine Warbler" started appearing my mailbox. I noticed that the quarterly's logo featured a distinctive blue-gray and lemon-yellow bird with the broken white eye ring. Part magnolia warbler, part yellow-breasted chat. Locals often refer to it as the "jack pine bird" because the bird spends its summer months in the jack pine habitat.

The bird was named after Dr. Jared Kirtland, a physician, of Cleveland. In 1851, Charles Pease shot a jack pine warbler and brought it to his father-in-law, Dr. Kirtland, to identify. Unable to determine what species it was, Kirtland gave the skin to Dr. Spencer Baird, a Smithsonian biologist, who discovered it was a previously unknown species and named the bird after Dr. Kirtland. It wasn't until 50 years later that Norman Wood, a taxidermist at University of Michigan's Museum of Natural History, found the jack pine bird's nesting grounds in Oscoda County Michigan.



John Doskoch

The Kirtland's warbler is North America's rarest wood warbler. An insectivorous neotropical migrant, it nests and breeds in a small area in Michigan and overwinters in a similarly small range in the Bahamas. Typically Kirtland's warblers have one clutch of eggs per year with up to four young.

Kirtland's warblers nest in young jack pine forests, among trees typically 5 to

12 feet in height, mostly in the northern part of Michigan's lower peninsula; a few also nest in Michigan's upper peninsula, northern Wisconsin and Ontario. Jack pine barrens were historically fire-dependent ecosystems. Now the habitat is created mostly by clear-cutting mature tracts and then replanting one- or two-year old seedlings in an opposing wave pattern. This "opposing wave" pattern mimics the erratic patterns created by



Dotty Kelly, Carol Bocetti and Keith Kintigh participated in the 2021 survey.
Photo by William Rapai.



John Doskoch



John Doskoch

wildfires and then subsequent regeneration, leaving periodic quarter-acre openings which results in increased edge habitat. Kirtland's build nests on these edges and in the furrows between tree rows.

The first census of singing Kirtland's warbler males was in 1951, when 432 singing males were recorded. Ten years later 502 males were recorded. However, by 1971, four years after the Kirtland's was placed on the inaugural list of 75 federally endangered species, only 201 were counted. They reached an all-time low in 1974, when the count dropped to 167. Kirtland's warblers have never been abundant, but habitat loss, combined with nest parasitism from the brown-headed cowbird, destabilized the population from the 1960s through the early 1990s. They have finally begun to recover because of improved management practices and a successful brown-headed cowbird trapping program.

On Monday morning, June 8, at 5:30 a.m., I met the other census takers. Some were first-timers like me, others were seasoned volunteers or experienced professionals. Seasoned surveyors included staff members from the Michigan Department of Natural Resources, including Keith Kintigh, forest conservation and certification specialist. Additional census takers included U.S. Fish and Wildlife (USFWS) staff, Dr. Carol Bocetti, an endangered species biologist and professor from California University of Pennsylvania, and Dr. Nathan Cooper, a conservation biologist from the Smithsonian Migratory Bird Center. After introductions and instructions, we were grouped into twos or threes and assigned two-mile long transects within the management area.

The first transect I walked with Dr. Bocetti and her sister, Dottie Kelly, was easy, a straight, sandy road, where we counted our paces and paused every 200 meters to listen for singing male Kirtland's warblers. When we heard one, we determined from which direction the singing was emanating and tried to estimate how far away the bird was located. Then, using a compass and a map, we drew a line from the transect route to the estimated location of the singing male and marked its spot with an "x."

After another 1/8 mile we attempted to triangulate the locations of birds we had previously heard, if possible, and record new singing males. Each group of surveyors walked a quarter mile apart, allowing the leaders to compare maps after transects were completed to compile data for an accurate count of the number of birds heard without duplications.

Censusing the Kirtland's is done totally by ear. During my treks through the jack pine and its numerous large Allegheny ant mounds, I heard field sparrows, ovenbirds, Nashville warblers, brown thrashers, yellow-rumped warblers, chickadees, hermit thrushes, blue jays, eastern towhees and juncos. While none of the experienced participants

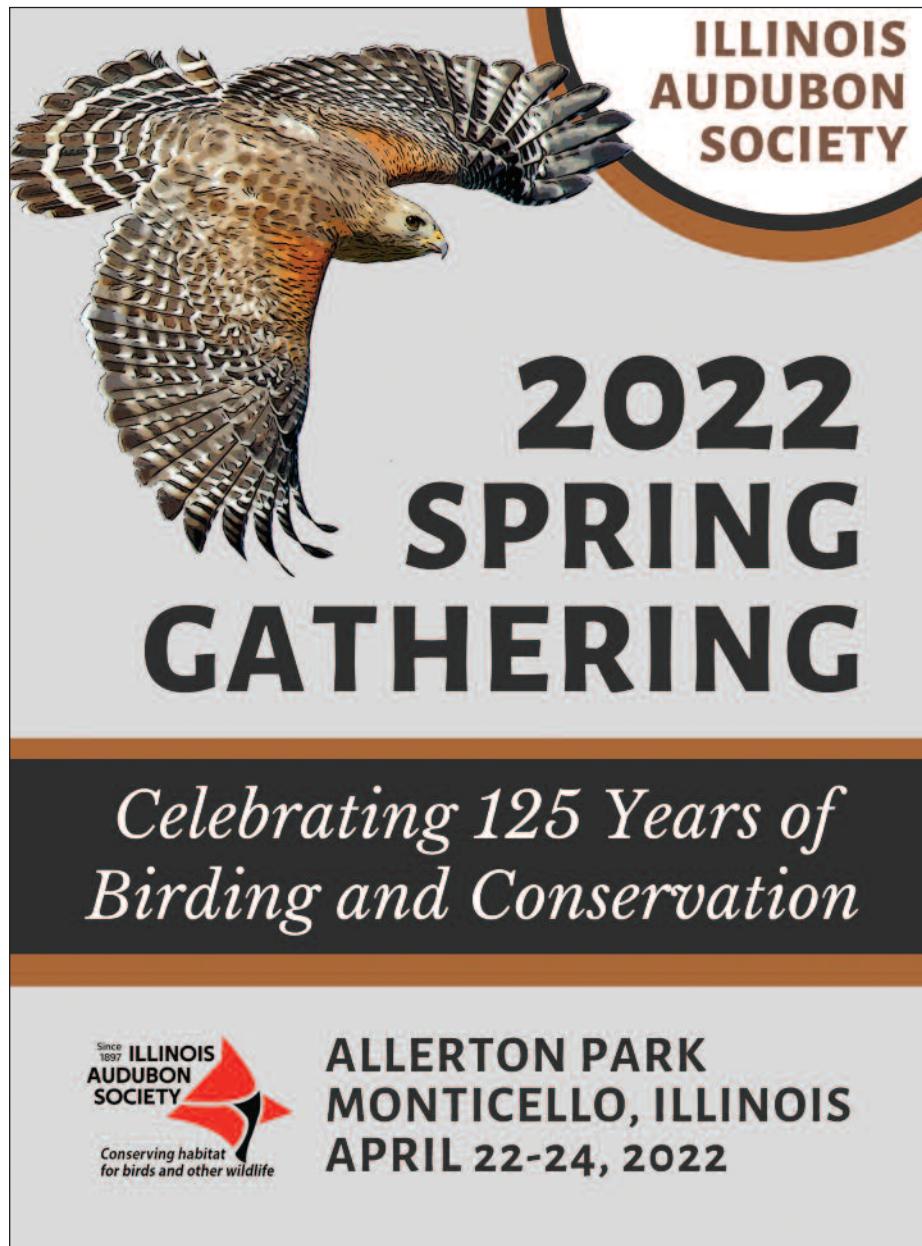
carried binoculars, I had mine with me in the hopes of getting a good look at a Kirtland's warbler. During my second transect, which was through the jack pine forest instead of next to it, I got the best look I was going to get during the census. About half-way through the transect I heard a Kirtland's singing close and loud. Turning around, I spotted it sitting on top of a black cherry tree about 20 feet away! I could see its two eye crescents and throat vibrating without my binoculars as it sang its chip-chip-chip-ee-oow song over and over.

Since 2001, the Kirtland's population has exceeded 1,000 pairs and now exceeds 2,000 pairs. Having met the minimum population requirement of 1,000

pairs, the species was delisted in 2019. The brown-headed cowbird trapping program was suspended in 2018, and currently only 1 to 2 percent of nests are parasitized. The Kirtland's is the first conservation reliant species to be removed from the endangered species list. Ongoing management is now coordinated by the Kirtland's Warbler Conservation Team which is a public/private partnership.

"We (partners coordinating the Kirtland's warbler census) took the successful formula of the recovery program and rolled it into this partnership to sustain the species forever," said Dr. Bocetti.

Since Kirtland's warbler's habitat must be actively and intensely managed in order for them to survive, loss of funding for that management is their greatest threat going forward. Protecting the jack pine barrens habitat provides habitat for many other species, rare and common, plant and animal, such as Allegheny plum, Hill's thistle, secretive locust (a rare grasshopper), eastern massasauga (Michigan's only venomous snake), rough fescue and upland sandpiper. To learn more about this charismatic bird read William Rapai's *The Kirtland's Warbler* and visit kirtlandswarbler.org or kw-conservation.org. ■



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BIO

Tracy Zeman's first book, "Empire," recently won the New Measure Poetry Prize from Free Verse Editions. Her poems and book reviews have appeared in *Beloit Poetry Journal*, *The Cincinnati Review*, *Colorado Review*, *Denver Quarterly* and others. She formerly worked with the Illinois Audubon Society, coordinating education programs at Adams Wildlife Sanctuary. She lives outside Detroit, Michigan, with her husband and daughter, where she hikes and bird watches in all seasons.

When the Swallows Return to Picnic Shelters

By Annette Prince



Chuck Peterson

EVERY SUMMER brings birds and people together in the forest preserves and state, county and city parks of Illinois.

One yearly challenge occurs when nesting barn swallows take up residence in picnic shelters. Swallow nests in the upper rafters of the structures provide views of adorable baby birds but also result in swooping parent birds and an accumulation of bird droppings in areas used by human visitors.

Looking for a way that birds and people could coexist, the Forest Preserve District of Cook County offered Northwestern students from the McCormick School of Engineering's "Design Thinking and Communication" course the challenge of designing bird- and people-friendly picnic shelters.



(Image Credit: Callista Sukohardjo)

Working together with staff, professors and wildlife biologists to understand the project requirements, two student teams developed a range of options to help birds and humans share the picnic shelters while ensuring that protection of nesting birds was a priority.

One design suggestion involved extending tarp barriers below nests to catch droppings. The design suggested tarps be spaced so they did not result in water accumulation and set up to allow park personnel to lower and clean them as needed.

Another alternative was to build swallow “nesting cubbies” along the outside of the shelters, away from picnic tables, and to place guano guards under the cubbies to collect droppings.

Two additional designs proposed building separate shelters for swallows that would provide elevated nesting areas out of the reach of human disturbance. Students suggested that the space under stand-alone nesting shelters could be landscaped with native plants or other materials to reduce human activity in those areas.

Educational components of these designs offered interpretive signage to help visitors understand and appreciate why swallows need protected places to raise their young.

The teams also considered mechanisms for discouraging swallows from nesting in unsuitable shelter locations, including physical barriers, laser deterrent systems and sloped plastic surfaces or hydrophobic coatings that would prohibit birds from attaching nests.

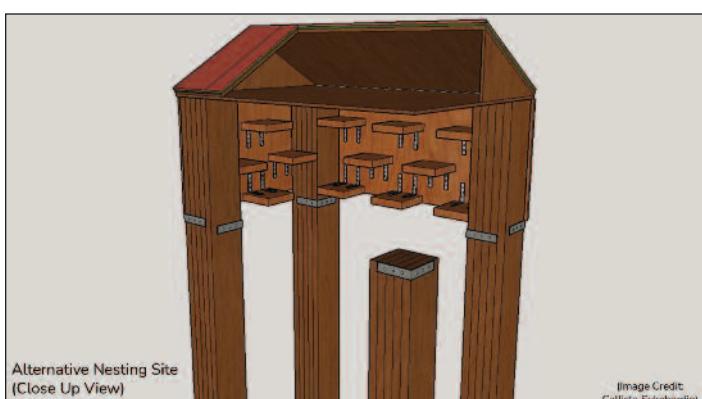
All students reported a great experience putting their ideas and expertise towards a worthwhile effort that promoted positive relationships between bird and human visitors.

Team member William He said “I learned to be more mindful of how one design can be used in totally different ways by separate users. Often we think of things from our own perspective, or from other peoples' perspectives, but we rarely consider the animals that we share our space with.”

The prototypes will be tested in future nesting seasons. Willingness to use modified or alternative nesting locations as well as the swallow's nesting success will be measured. Effective shelter designs could be used in public areas shared by birds and people.

The new and creative ideas developed by the “Design Thinking and Communication” students may one day provide an effective way for people and birds to socially distance yet benefit from Illinois' outdoor spaces. ■

More information at: design.northwestern.edu/info-by-audience/project-partners/design-process-partner-expectations.html



Thanks to Kathleen Carmichael (Cook Family Writing Program), Bill Miller (McCormick School of Engineering) and McCormick School of Engineering's “Design Thinking and Communication” course Team Members Callista Sukohardjo, Johanna Kann, Leonardo Lopez, William He, Joshua Feist, Olivia Johansson, Aymen Lamsahel and Zoe Snead.

BIO

Annette Prince has worked on local and national conservation projects as well as wildlife education and rehabilitation programs over the last 30 years. She joined the grass-roots project Chicago Bird Collision Monitors 18 years ago and became its director in 2005 helping to advance its mission to rescue, educate and advocate for the protection of birds impacted by the dangers they face in urban areas. Prince serves on the board of the Chicago Audubon Society and heads the Bird Friendly Chicago initiative to promote bird-friendly building design policies in Chicago.



An avid bird watcher, Prince has traveled to all 50 states, Canada, Mexico and Central America to enjoy birds and their natural habitats.

IAS Sanctuary Report

Adams Wildlife Sanctuary

by Mike Holinga

The Adams Wildlife Sanctuary volunteer stewards have been busy mowing and widening trails to keep up with the encroachment of vegetation and caring for the grounds around the headquarters. Volunteers will be collecting seeds from the prairie and are in the process of preparing the prairie for a fall burn.

A puddle station has been added to the pollinator garden, and work has begun on insect hotels. Area students will install the hotel features. A map of the garden is now available in the sanctuary kiosk. A sign for the pollinator garden also has been designed and will be erected soon.



Amboy Marsh Nature Preserve

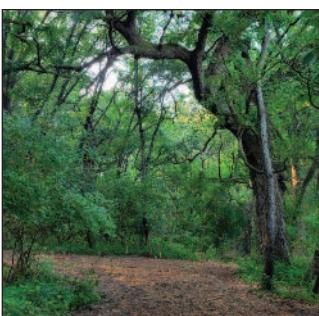
by Deb Carey

A quiet afternoon of bird watching turned exciting when Jim Hampson noticed that a great horned owl, with a garter snake in its beak, was standing in the middle of the road near the Volunteer Center. Dusk and dawn are an owl's more common hunting times, but this owl has been seen several times in the same location during daylight hours. The bird looks healthy. It can catch a slithering snake for an afternoon snack!

The sanctuary hosted an Illinois Audubon Society Field Trip on August 28. Isaac Stewart, who is a Board Member and Professor at Blackhawk East College, was able to show participants a federally endangered rusty

patched bumble bee, and botanist Bill Handel showed participants rare and unusual plants, such as *Rhexia virginica* (Virginia meadow beauty). Jim Hampson, although he could not produce a snake-catching owl during the field trip, did a great job pointing out some of the almost 200 species of birds documented at the site. Insects, birds and plants—what a great day!

Restoration continues at the Ryback parcel. Contractors have done a quick and neat job creating the fire lines necessary to safely implement a prescribed fire, slated for the coming dormant season.



Gremel Wildlife Sanctuary

by Deb Carey

Remodeling an open shelter into secure storage for equipment is a project currently managed by volunteer John McCrosky. Located just west of the shop constructed in 2018, this remodel will make it easy to safely store trailers and mowers.

Avian, muskrat, flora, insect and sedge research continue at Gremel Wildlife Sanctuary,

as well as at Amboy Marsh Nature Preserve. On-going surveys add immeasurably to our wealth of knowledge and often surprise us with interesting results. Information gained from research aids us in making wise restoration and management decisions.



H&B Bremer Wildlife Sanctuary

by Nancy Redman

One major project for 2021 at H&B Bremer Wildlife Sanctuary is construction of a covered picnic pavilion with an adjoining firepit. The concrete was poured and finished on June 16 with the volunteers beginning the upright construction work soon afterwards. Pressure-treated lumber, making up the bones, and metal roofing, soffit and gable ends have been installed over the last few weeks. Installation of lighting, electrical outlets, some new memorial picnic tables and a repurposed original sign (originally from the sanctuary dedication in 1977) will complete the project.

Prairie Ridge State Natural Area

by Bob Gillespie, IDNR Site Manager



The Illinois Audubon Society sanctuaries near Prairie Ridge State Natural Area have been busy places during the late summer season. The Robert Ridgway and Gruber Grasslands were both successfully treated with growing-season prescribed burns to combat *Sericea lespedeza* infestations and other encroaching populations of undesirable woody species. Prior to the prescribed fire operations, significant procedures were conducted across the two tracts to apply herbicide onto patches of *Sericea* and other invasive species in an effort to give these problem actors a one-two punch.

The Horner/Marshall tracts' new seeding was rotary mowed to address cottonwood sprouts that colonized the young grass plantings. The newly planted meadows on this tract are composed of three different cover types: redtop grass, brome grass, and a hilltop planting of various native warm-season grasses and wildflowers. Within the cool-season grass plantings, the clover component is very notable and full of pollinators, hoppers of various energetic types (grasshoppers, katydids, bunnies, deer fawns, etc.) and grassland birds (a northern harrier that visits in the evening, dickcissels, bobwhite quail and abundant meadowlarks).

War Bluff Valley Wildlife Sanctuary

The Shawnee Chapter hosted Hummingbird Day at War Bluff Valley Sanctuary on July 24. The event attracted about 50 participants of all ages. At the craft table, children enjoyed making creatively designed hummingbirds, working out hummingbird puzzles and coloring. Hummingbirds were plentiful and active at the feeders and were nectaring on the various potted flowers provided by Karen Frailey, who presented two power point programs on attracting, feeding and gardening for hummingbirds. Participants of all ages enjoyed the Hummingbird

Headaches Migration Game, during which they discovered the many pitfalls that await hummingbirds during their lengthy migration. As a bonus, a local pair of Mississippi kites (*Ictinia mississippiensis*) made several appearances overhead.

More trail maintenance and mowing were completed during the monthly Stewardship Day on August 14. Several state endangered orchids, spring ladies' tresses (*Spiranthes vernalis*), were spotted blooming along the North Pond trail.



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